What Is Claimed Is:

1.   A bill serial number reading device for reading a serial number of a bill to be transported on a transport path, comprising:

image reading means which has at least two light sources having different emission colors and an image sensor;

identification means for identifying a denomination and direction of the bill being transported on the transport path; and

control means for selectively driving the light sources based on information on the denomination and direction identified by the identification means and controlling the image reading means so as to scan and read a portion where a serial number of the bill being transported is printed.

2.   The bill serial number reading device according to Claim 1, further comprising:

temporary holding means for sequentially taking and temporarily holding a plurality of bills which are transported in from the transport path; and

bill transporting means for transporting the bill to the temporary holding means via the identification means and the image reading means, then transporting the bill in a reverse direction from the temporary holding means so as to pass through the image reading means, wherein:

the control means controls the image reading means so that the bill which has passed through the identification means are transported to the temporary holding means, and the serial number of the bill is scanned and read when the bill is transported in the

reverse direction from the temporary holding means and passes through the image reading means.

3. The bill serial number reading device according to Claim 1, wherein first and second image reading means are disposed on a top and bottom of the transport path of the bill, and the control means performs control for selectively switching the first or second image reading means and the emission color of the light source of the each image reading means based on the information on the denomination and direction.

4. The bill serial number reading device according to Claim 1, further comprising serial number recognition means for recognizing the serial number of a scanning and reading target bill based on image data which is output from the image reading means by the scanning and reading.

5. The bill serial number reading device according to Claim 4, wherein the serial number recognition means comprises a plurality of serial number recognition sections for capturing the image data for one bill and recognizing the serial number of the bill, and switching means for sequentially assigning the image data for one bill by the image reading means to the each serial number recognition section.

6. The bill serial number reading device according to Claim 5, wherein the serial number recognition section comprises image processing means for extracting a serial number area, which is specified based on the information on the denomination and

direction, from the image data which is output from the image reading means, converting it into binary data, and recognizing the serial number from the binary data.

7.   The bill serial number reading device according to Claim 1, wherein the bill is a Euro bill and the light sources, which are selectively driven, are a red light source using a red LED and a green light source using a green LED.

8.   A bill serial number reading device for reading a serial number of a bill to be transported on a transport path, comprising:

identification means for identifying a denomination and direction of the bill being transported on the transport path;

image reading means for selectively driving light sources based on information on the denomination and direction identified by the identification means, and scanning and reading a portion where the serial number of the bill being transported is printed; and

serial number recognition means for extracting the serial number area from output image data of the image reading means based on the denomination and direction information of the bill and recognizing a character of each digit of the serial number from image data of the serial number area, replacing a character which cannot be recognized with an error character which indicates a recognition error, and adding the error character to recognized characters to output as a recognition result.

9.   The bill serial number reading device according to Claim 8, further comprising:

input means for inputting information of an individual who deposited the money;

storage means for storing the recognition result of the serial number recognition means corresponding to the information of the individual who deposited the money; and

retrieval means for retrieving the information on the individual who deposited the money corresponding to the serial number from the storage means based on the serial number to be input.

10.   The bill serial number reading device according to Claim 8, further comprising problem bill serial number storage means for storing the serial number of a problem bill, and informing means for collating the recognition result of the serial number recognition means and the problem bill serial number stored in the problem bill serial number storage means and informing that a candidate of the problem bill was deposited when the characters in the recognition result, excluding error characters, match.

11.   The bill serial number reading device according to Claim 8, wherein the serial number recognition means comprises:

means of generating a histogram in a vertical direction from the image data on the serial number area;

means of calculating coordinates of a character block where black pixels exist by scanning and reading the histogram;

means of calculating how many characters a character block width corresponds to based on a pre-stored character width/inter-character space information and the coordinates;

means of judging whether a length of an entire character block is shorter than a normal length of the serial number area when the calculated number of characters is less than the normal number of characters of the serial number;

means for checking an inter-character space when the length of the entire character block is not shorter than the normal length, and if there is a block having two or more characters, replacing the characters with the error characters; and

means of recognizing a respective character from each character block, excluding the character block replaced with the error characters, and generating the recognition result by combining the recognized characters and the error characters.

12.   The bill serial number reading device according to Claim 11, wherein the serial number recognition means further comprises:

means of calculating distances from ends of a frame to a first character block at left and right respectively when the length of the entire character block is shorter than the normal length of the serial number area;

means of adding error characters for the number of missing digits at the left or right, whichever distance is shorter; and

means of recognizing a respective character from each character block excluding the character block where the error characters are added, and generating the recognition result by combining the recognized characters and the error characters.

13.   A bill serial number reading method for reading a serial number of a bill to be transported on a transport path, including image reading means which has at least two

light sources having different emission colors and an image sensor, the method comprising:

identifying by identification means disposed on the transport path a denomination and direction of the bill being transported,

controlling the image reading means by selectively driving the light sources based on the identified information on the denomination and direction so as to scan and read the portion where the serial number of the bill being transported is printed, and

reading the serial number of the bill while selectively changing the emission colors of the light sources according to the denomination and direction of the bill.

14. The bill serial number reading method according to Claim 13, further including temporary holding means for sequentially taking and temporarily holding a plurality of bills which are transported in from the transport path, wherein the method further comprises: transporting the bill to the temporary holding means via the identification means and the image reading means, then sequentially transporting the bill in the reverse direction from the temporary holding means, and scanning and reading the serial number of the bill when the bill passes through the image reading means.

15. The bill serial number reading method according to Claim 13, wherein first and second image reading means are disposed at the top and bottom of the transport path of the bill, and control is performed for selectively switching the first or second image reading means and emission color of the light source of the each image reading means based on the information on the denomination and direction.

16. The bill serial number reading method according to Claim 13, wherein the bill is a Euro bill and the light sources which are selectively driven are a red light source using a red LED and a green light source using a green LED.

17. A bill serial number reading method for reading a serial number of a bill to be transported on a transport path, comprising:

a step of identifying a denomination and direction of the bill being transported on the transport path;

a step of selectively driving light sources based on the identified information on the denomination and direction, and scanning and reading a portion where the serial number of the bill being transported is printed; and

a serial number recognition step of extracting the serial number area from the image data acquired by the scanning and reading based on the information on the denomination and direction of the bill, and recognizing the character of each digit of the serial number from image data of the serial number area, replacing the character which cannot be recognized with an error character which indicates a recognition error, and adding the error character to recognized characters to output as the recognition result.

18. The bill serial number reading method according to Claim 17, further comprising:

a step of inputting information of an individual who deposited money;

a step of storing the recognition result corresponding to the information on the individual who deposited money; and

a step of retrieving information on the individual who deposited money corresponding to the serial number out of the stored information based on the serial number to be input.

19.   The bill serial number reading method according to Claim 17, further comprising:

a step of storing the serial number of a problem bill; and

a step of collating the recognition result and the problem bill serial number, and informing that a candidate of the problem bill was deposited when the characters in the recognition result, excluding the error characters, match.